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14 *P* a) staining intact, viable sperm collected from a male mammal with a fluorescent dye capable of selectively staining DNA in living cells by incubating the sperm with the dye at a temperature in the range of about 30°-39° C for a period of time sufficiently long for staining to take place uniformly but sufficiently short to preserve viability of the sperm;

P b) passing the sperm into an electrically conductive and isotonic viability-supporting sheath fluid to form a suspension of sperm which are caused to flow singly in a stream of sheath fluid;

71 *P* c) passing the sheath fluid containing the sperm before an excitation light source causing the stained DNA to fluoresce;

P d) passing the sheath fluid containing the sperm through both a means for detecting the fluorescence of the stained DNA and also a cell sorting means, the means for detecting fluorescence having at least two detectors arranged such that a first detector determines the orientation of sperm on the basis of magnitude of fluorescence and controls a second detector to measure the DNA content of sperm on the basis of magnitude of fluorescence of those sperm that have been determined to be in a preselected orientation;

P e) selecting by said cell sorting means the sperm having a DNA content corresponding to a desired chromosome which will produce a desired gender

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of offspring, and separating the selected sperm from nonselected sperm;

and

f) collecting the selected sperm in a viability-supporting collecting fluid.

Rewrite Claim 27 as follows:

27. ¹⁵(Amended). A method to preselect the sex of mammalian offspring comprising:

a) staining intact, viable sperm collected from a male mammal with a fluorescent dye capable of selectively staining DNA in living cells by incubating sperm with the dye at a temperature in the range of about 30°-39° C for a period of time sufficiently long for staining to take place uniformly but sufficiently short to preserve viability of the sperm;

b) passing the sperm into an electrically conductive and isotonic viability-supporting sheath fluid to form a suspension of sperm which are caused to flow singly in a stream of sheath fluid;

c) passing the sheath fluid containing the sperm before an excitation light source causing the stained DNA to fluoresce;

d) passing the sheath fluid containing the sperm through both a means for detecting the fluorescence of the stained DNA and also a cell sorting means to measure the DNA content of the sperm on the basis of magnitude of fluorescence of the sperm;

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e) selecting by said cell sorting means the sperm having a DNA content corresponding to a desired chromosome which will produce the desired gender of offspring, and separating the selected sperm from nonselected sperm; and

f) collecting the selected sperm in a viability-supporting collecting fluid.

[Rewrite Claim 28 as follows:]

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28. (Amended). A method for preparing intact, viable, mammalian sperm for sorting into X- and Y-chromosome-bearing populations based on DNA content, the method comprising [:

a)] staining intact, viable sperm collected from a male mammal with a fluorescent dye capable of selectively staining DNA in living cells by incubating the sperm with the dye at a temperature in the range of about 30°-39° C for a period of time sufficiently long for staining to take place uniformly but sufficiently short to preserve viability of the sperm.

REMARKS

Claims 9-34 are now in the case.

Claims 1-8 have been cancelled.

No claim has been allowed.